

EZ-CAL OF DEPTH GAUGE

Calibration of your Depth Gauge using the Dial Caliper. EZ-Cal is offered as a method by which rodmakers can quickly check the calibration of their Depth Gauge only using their Dial Indicator. It is a quick and supplemental method to other means of check calibration.

My previous article on depth gauge calibration explored using your final form and rods to calibrate the depth gauge. This method is good and it also confirms if your final form has good 60-degree grooves. However, I have a much simpler and easier method to use when you just want to do a quick double check of the depth gauge.

Today, most rodmakers possess a Dial Caliper. Almost all of the ones I have seen and used are of good quality and accuracy. The jaws of the Dial Caliper are parallel to each other and flat. The edges of the jaws have a nice sharp corner. So what we are going to do is use this precision-measuring instrument to calibrate the depth gauge.



FIGURE 1. Dial Indicators set to Zero

The Method

Follow these simple steps:

- **Close the jaws on the Dial Indicator and set the Dial to Zero (This method applies to both analog and digital readouts).**
- **Now open the jaws until the Dial Indicator Dial reads .100. This means the gap between the jaws is .100" wide.**



FIGURE 2. Set the gap between the jaws to .100".

- **Tighten the Dial Indicator lock screw to hold the jaws in place at this reading.**
- **Now place the Depth Gauge on the jaws of the Dial Indicator so the 60 degree point is in the .100" gap.**
- **Read the value from the Depth Gauge Dial**
- **You can slide the Depth Gauge up and down along the jaws of the Dial Indicator and you should see the reading remains the same.**

- The reading on the Dial Indicator should be equal to Cosine 60 degrees times the gap distance.

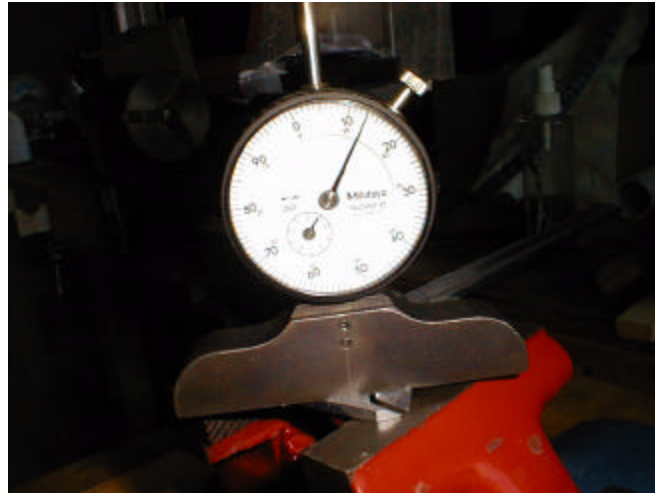


FIGURE 3. Read the Depth Reading.

Doing the Math

Doing the math:

Depth = cosine 60 degrees times the gap distance.

For the example illustrated above:

Depth = .866 x .100"

Depth = .0866

Check against depth gauge

If you have an accurate calibration then the readings should be the same.

There are other values that you can set the Dial Caliper gap to and all of them will work. For example. If you set the gap in the jaws of the Dial Caliper to .1155" then the Depth Gauge should read .100. This method assumes you have a good 60 degree point on your Depth Gauge. You should get consistent answers regardless of the width of the gap you use. Making multiple readings at different gap widths should confirm your Depth Gauge tip is a true 60 degrees.



Summary

This method is quick and simple. But the results are very accurate. A rodmaker can quickly double check the depth gauge without any need for a calibration standard. In addition, it gives him a double check on other methods that he may use.